

Comments and Responses on Public Review Draft of SOCCR/SAP 2.2 (September 2006)

COMMENTS FROM PUBLIC REVIEWERS						AUTHOR'S RESPONSE						
Comment Number	Reviewer ID	Chapter	Page	Line	Comment Text	Acknowledged, but no further response or revisions are required	Revisions have been incorporated as suggested in the comment	Agree, but see "Notes on Response"	Agree, but elaboration is precluded by length limitations	Disagree; see "Notes on Response"	Beyond scope of report/chapter	Notes on Response
14-001	2	14	All		The scope and intent of this chapter is described well, although there is a slight mismatch between the title and content as the report does not address the carbon cycle of urban areas relative to the North American CC, rather it focuses on components of it. Overall, the chapter is well written and organized. A wide range of perspectives and methodologies are reported and the report is balanced in its approach.	X						
14-002	2	14	All		The conclusions and recommendations of the report are adequately supported by evidence, although some references to the more recent literature are not included (for example the work of Vogt and Moriawaki). However, these omissions do not impact the conclusions of the report, just its completeness. They are also not for North America urban areas.			X				It's true that there are some additional relevant references in the recent literature concerning eddy covariance measurements in cities in Asia and Europe.
14-003	2	14	All		Uncertainties and incompleteness of data are highlighted and the need for more work on actual urban carbon fluxes is stressed. In several places, error bars are given. However, implications of other uncertainties – for example the effect of mixed pixels from remotely sensed data, the specific definition of trees in urban areas (is attention focused on trees of a certain size only, are shrubs included, what about other urban kinds of urban vegetation etc)		X					
14-004	2	14	All		No original data or analyses are presented in the report, rather it is a synthesis of previous studies (see above comments about completeness of coverage)						X	
14-005	2	14	14-3	19	What is the basis for the categorization of urban/natural trees – is this based purely on location?			X				Yes, the distinction is trees occurring on lands defined as urban by the U.S. census bureau vs. other lands (line 17)
14-006	2	14	14-3	26	When applying the corrections, was length of the growing season taken into account?			X				The extent that growing season length affects the variability in aboveground and belowground C stocks reported in the cited papers, it is incorporated into the uncertainty estimate
14-007	2	14	14-7	13&14	Rather than surface energy balance should refer to micrometeorological or eddy covariance fluxes		X					

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The following comments were received on the May 2006 Peer Review version of this report; however, the comments were received too late to have been incorporated into the Public Review Draft. Note that the page and line numbers below apply to the May 2006 "Peer Review Draft" and may not correspond to the September 2006 version.												
14-00A	35	14	All		The key findings at the beginning of this chapter work well to frame the article. Pataki et al. do a good job keeping to the form of this outline, and the piece is for the most part clearly written. Nonetheless areas for improvement are also apparent from the overview of findings. While improvements can be made, the report is useful, appropriately balanced, and informative within the explicitly recognized limits of existing data and analyses.	X						
14-00B	35	14	All		Overall, the chapter's findings are at a quite high level of generalization, and where there is specificity there is little linkage to the general. Even though this is a single chapter in a book, more detail could be very helpful in several areas as discussed in the following comments.	X						
14-00C	35	14	All		First, it would be useful to survey the literature to include a few existing simple statistics that are currently used as rule of thumb measures of impact of human settlement to frame what is known and what is not known, if available.					X		I do not really understand this comment. What types of impacts are being referred too? The impact on net carbon balance? Such a metric is very far from being available, as discussed in the chapter
14-00D	35	14	All		Second, if detailed information is to be provided about some impacts, it would be useful to explain why such detail is important and why it is lacking for other possibly more important phenomenon.	X						
14-00E	35	14	All		Third, there are statements about likely impacts and likely research advances that could be better substantiated.	X						
14-00F	35	14	All		Most importantly, it would be useful to discuss further how to overcome the problems of measuring changes in the carbon cycle due to human settlements or at least to discuss in more detail the source of the identification and measurement problems.				X			A list of research needs is given in the last section. Methodology is also discussed on page 14.4 lines 15-24. My impression from the coordinating team was that further detail on methodology was outside the scope of the report, but I have included the citation to the technical paper that was written to accompany this chapter
14-00G	35	14	All		To expand on the first suggestion, it would be helpful for the authors to discuss in greater detail the existing ways of measuring the human impact on the carbon cycle. By now we are well aware of the general problems that arise when researchers attempt to gauge human impact on the environment. The authors do mention that population growth, household size, and urban form affect CO2 emissions, but it would helpful to discuss how best, given the current state of the art, to measure the impact of land use decisions. This is important because while income and population growth are to a large extent givens, land use is a policy variable.				X			This information is provided in the chapter to the extent that space permits

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14-00H	35	14	All		If the above is not now possible, specifically what knowledge do we need and how can we proceed to gather this information. For example, it would be interesting to know if researchers can measure the amount of CO2 released when one acre of forest is paved over and then turned into parking lot (using a "typical" parking lot specification) or when land is converted from agriculture to a parking lot (or the effect of house size on CO2 emissions or the cutting down trees and building homes, or the conversion of agricultural land to communities, building golf courses, regularly tilling agricultural land etc).				X			This information is provided in the chapter to the extent that space permits
14-00I	35	14	All		What are the best estimates of impacts of examples such as the above human settlement decisions? If researchers knew these answers, estimates of these impacts could be made across the US and they could be put them into various growth models. These pieces of information would have direct policy implications for decision makers.				X			This information is provided in the chapter to the extent that space permits
14-00J	35	14	All		The authors state that metabolic and footprint analyses of specific settlements are seldom done and are needed—what are the barriers to this knowledge? What do we need to know, how must we expand current research to improve on the current state of knowledge of the impact of the form and size of human settlements on the carbon cycle?			X				This is explained in lines 12-13: these studies are limited by the availability of energy and fuel statistics at the municipal scale
14-00K	35	14	All		In any case, a key piece of the knowledge of future impacts will be the population build out and the form in which this takes. The authors refer to a one-time "snap-shot" of the extent of human settlements for North America as well as to the one-time measure of the urbanized area of the US. Of course we will need to know as best we can how this has changed over time and is likely to change going forward. Some discussion of how to gain this knowledge would be useful. Is it possible to have access to a moving picture which then could be modeled going forward? Social scientists are conducting work that attempts to model the places where future growth will occur in the US, which would in turn help in predicting human impacts to the carbon cycle. It would be useful to discuss further the limitations and potential of this work.				X			A list of research needs is given in the last section. Methodology is also discussed on page 14.4 lines 15-24. My impression from the coordinating team was that further detail on methodology was outside the scope of the report, but I have included the citation to the technical paper that was written to accompany this chapter
14-00L	35	14	All		In the "Options for Management" section Pataki et al. begin by talking about a specific local government initiative. There are also state level initiatives some of which are associated with federal requirements. Some reference to these initiatives would be of interest.						X	Discussion of policy options in this report is limited to citations in the peer-reviewed literature. Municipal scale greenhouse gas reductions initiatives have been studied in the past, so those papers are cited here. If there are available studies on statewide initiatives those could be added in this section, but I have not found specific citations.
14-00M	35	14	All		Overall, the piece does a good job of pointing out potential human impacts on the carbon cycle and highlights the possibilities of quantifying various human inputs in the future, but it does not really elaborate on ways to move forward. Considering that it is a single chapter, it does mention many human impacts that do affect the carbon cycle, but it would helpful if it more systematically dealt with what is known, what is not known about several human impacts, and most importantly, how to move forward.				X			A list of research needs is given in the last section. Methodology is also discussed on page 14.4 lines 15-24. My impression from the coordinating team was that further detail on methodology was outside the scope of the report, but I have included the citation to the technical paper that was written to accompany this chapter

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14-00N	35	14	All		The chapter does point to local governments that are voluntarily taking action to reduce carbon cycle impacts, but without the proper data to quantify the impact of taking specific steps, local government initiatives cannot be evaluated. We need to know which separate actions have the greatest impact. That way federal, state and local government can evaluate appropriate policies going forward.			X				Agreed, but we cannot assess which actions have the impact without additional research, as described in the text